In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (withdrawn) A polymer composite which comprises:

   (a) a cellulose-based polymer filler;

   (b) a chlorinated resin coupling aid said resin chlorinated to between approximately 30-75%; and

   (c) a thermoplastic polymer.

2. (withdrawn) The composite of claim 1 which further comprises a lubricant.

3. (withdrawn) The process of claim 2 wherein said lubricant is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics, and mixtures thereof.

4. (withdrawn) The process of claim 3 wherein said lubricant is a polyalkylene glycol fatty acid ester.

5. (withdrawn) The composite of claim 2 wherein said resin is chlorinated to between approximately 40-75%.

6. (withdrawn) The composite of claim 3 wherein said resin is chlorinated to between approximately 50-75%.

7. (withdrawn) The composite of claim 4 wherein said resin is chlorinated to between approximately 60-75%.

8. (withdrawn) The composite of claim 5 wherein said resin is chlorinated to between approximately 68-72%.

9. (withdrawn) The composite of claim 5 wherein said resin is about 4% by weight of said composite.

10. (withdrawn) The composite of claim 7 which further comprises a processing aid.

11. (withdrawn) The composite of claim 8 wherein said processing aid is talc.

12. (withdrawn) The composite of claim 9 wherein

(a) said processing aid is approximately 4 weight percent; and

(b) said filler is approximately 60 weight percent.

13. (currently amended) A process for improving extruder output of a cellulose and thermoplastic composite comprising the step[[s]] of:

(a) adding between approximately 0.1% to 10% by weight of a paraffin wax chlorinated resin based on total composite weight to a thermoplastic resin thereby forming said thermoplastic composite, said chlorinated paraffin wax resin chlorinated to between approximately 30-75%,

said addition of said paraffin wax chlorinated resin lowering the viscosity of said cellulose and thermoplastic composite at processing temperatures while simultaneously at least maintaining said flexural modulus and tensile properties of said composite, said properties compared to a composite without any added chlorinated paraffin wax resin.

~~(b) said chlorinated resin functioning as both an internal and external lubricant, thereby reducing the amount of lubricant/processing aids and coupling agents by substitution of at least a portion thereof with said chlorinated resin.~~

14. (previously presented) The process of claim 13 wherein said resin is chlorinated to between approximately 60-75%.

15. (previously presented) The process of claim 14 wherein said resin is chlorinated to between approximately 68-72%.

16. (previously presented) The process of claim 14 which further comprises the step of adding a lubricant.

17. (original) The process of claim 16 wherein said lubricant is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics, and mixtures thereof.

18. (original) The process of claim 17 wherein said lubricant is a polyalkylene glycol fatty acid ester.

19. (original) The process of claim 16 which further comprises the step of adding a processing aid.

20. (currently amended) A process for improving a cellulose and thermoplastic composite by reducing extruder torque during processing ~~while essentially maintaining flexural modulus of said extruded composite and increasing the tensile strength of said extruded composite~~ comprising the step[[s]] of:

(a) adding between approximately 0.1% to 10% by weight of a paraffin wax chlorinated resin based on total composite weight to a thermoplastic resin thereby forming said thermoplastic composite, said chlorinated paraffin wax resin chlorinated to between approximately 50-75%, ~~said properties compared to a composite without any added chlorinated resin,~~

said addition of said paraffin wax chlorinated resin reducing extruder torque during processing while essentially maintaining flexural modulus of said extruded composite and increasing tensile strength of said extruded composite, said properties compared to a composite without any added chlorinated paraffin wax resin.

~~(b) said chlorinated resin functioning as both an internal and external lubricant, thereby reducing the amount of lubricant/processing aids and coupling agents by substitution of at least a portion thereof with said chlorinated resin.~~

21. (previously presented) The process of claim 20 wherein said resin wherein said resin is chlorinated to between approximately 60-75%.

22. (previously presented) The process of claim 21 wherein said resin is chlorinated to between approximately 68-72%.

23. (previously presented) The process of claim 21 which further comprises the step of adding a lubricant.

24. (original) The process of claim 23 wherein said lubricant is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics, and mixtures thereof.

25. (original) The process of claim 24 wherein said lubricant is a polyalkylene glycol fatty acid ester.

26. (previously presented) The process of claim 23 which further comprises the step of:

(a) adding a processing aid.

27. (withdrawn) A polymer composite which comprises:

(a) a cellulose-based polymer filler;

(b) a coupling aid which comprises:

(i) a chlorinated resin, said resin chlorinated to between approximately 30-75%;

(ii) an interfacial bonding agent, said agent comprising a hydrophilic component and a hydrophobic component; and

(c) a thermoplastic polymer.

28. (withdrawn) The composite of claim 27 wherein said chlorinated resin is chlorinated to between approximately 50-75%.

29. (withdrawn) The composite of claim 28 wherein said chlorinated resin is chlorinated to between 68-72%.

30. (withdrawn) The composite of claim 29 wherein said interfacial bonding agent is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics, and mixtures thereof.

31. (withdrawn) The composite of claim 30 wherein said interfacial bonding agent is selected from the group consisting of particularly esters of C_{16} to C_{24} fatty acids with polyalkylene glycols or polyoxyalkylene glycols.

32. (withdrawn) The composite of claim 31 wherein said interfacial bonding agent is nonionic.

33. (withdrawn) The composite of claim 32 wherein said interfacial bonding agent is the reaction product of a long chain fatty acid selected from the group consisting of stearic, oleic, palmitic, lauric, and tallow acids with a polyalkylene or polyoxyalkylene glycol to form a polyalkylene mono- or di- ester.

34. (withdrawn) The composite of claim 31 which further comprises a processing aid.

35. (withdrawn) The composite of claim 34 wherein said processing aid is talc.

36. (previously presented) The process of claim 13 which further comprises the step of adding an interfacial bonding agent comprising a hydrophilic component and a hydrophilic component.

37. (previously presented) The process of claim 36 wherein said interfacial bonding agent is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics and mixtures thereof.

38. (previously presented) The process of claim 37 wherein said interfacial bonding agent is selected from the group consisting of esters of C_{16} to C_{24} fatty acids with polyalkylene glycols or polyoxyalkylene glycols.

39. (previously presented) The process of claim 38 wherein said interfacial bonding agent is nonionic.

40. (previously presented) The process of claim 39 wherein said interfacial bonding agent is the reaction product of a long chain fatty acid selected from the group consisting of stearic, oleic, palmitic, lauric, and tallow acids with a polyalkylene or polyoxyalkylene glycol to form a polyalkylene mono- or di-ester.

41. (previously presented) The process of claim 20 which further comprises the step of adding an interfacial bonding agent comprising a hydrophilic component and a hydrophilic component.

42. (previously presented) The process of claim 41 wherein said interfacial bonding agent is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics and mixtures thereof.

43. (previously presented) The process of claim 42 wherein said interfacial bonding agent is selected from the group consisting of esters of C_{16} to C_{24} fatty acids with polyalkylene glycols or polyoxyalkylene glycols.

44. (previously presented) The process of claim 43 wherein said interfacial bonding agent is nonionic.

45. (previously presented) The process of claim 44 wherein said interfacial bonding agent is the reaction product of a long chain fatty acid selected from the group consisting of stearic, oleic, palmitic, lauric, and tallow acids with a polyalkylene or polyoxyalkylene glycol to form a polyalkylene mono- or di-ester.

46. (currently amended) A process for improving extruder throughput of a cellulose and thermoplastic composite ~~by reducing extruder torque during processing while simultaneously essentially maintaining flexural modulus of said extruded composite and increasing the tensile strength of said extruded composite~~ comprising the step[[s]] of:

(a) adding between approximately 0.1% to 10% by weight of a paraffin wax chlorinated resin based on total composite weight to a thermoplastic resin thereby forming said thermoplastic composite, said chlorinated paraffin wax resin chlorinated to between approximately [[50]] 68-75%, ~~said properties compared to a composite without any added chlorinated resin,~~

said addition of said paraffin wax chlorinated resin reducing extruder torque during processing while essentially maintaining flexural modulus of said extruded composite and increasing tensile strength of said extruded composite, said properties compared to a composite without any added chlorinated paraffin wax resin.

~~(b) said chlorinated resin functioning as both an internal and external lubricant, thereby reducing the amount of added lubricant by substitution of at least a portion thereof with said chlorinated resin.~~

47. (new) The process of claim 46 which further comprises the step of adding a lubricant.

48. (new) The process of claim 47 wherein said lubricant is selected from the group consisting of metal soaps, hydrocarbon waxes, fatty acids, long-chain alcohols, fatty acid esters, fatty acid amides, silicones, fluorochemicals, acrylics, and mixtures thereof.

49. (new) The process of claim 48 wherein said lubricant is a polyalkylene glycol fatty acid ester.

50. (new) The process of claim 46 which further comprises the step of:

    (a) adding a processing aid.

51. (new) A process for improving extruder throughput of a cellulose and thermoplastic composite comprising the steps of:

    (a) adding between approximately 0.1% to 10% by weight of a paraffin wax chlorinated resin based on total composite weight to a thermoplastic resin thereby forming said thermoplastic composite, said chlorinated paraffin wax resin chlorinated to between approximately 50-75%; and

    (b) at least one second additive selected from the group consisting of monostearates, stearamides, and talc,

    said addition of said paraffin wax chlorinated resin in combination with said at least one second additive reducing extruder torque during processing while essentially maintaining flexural modulus of said extruded composite and increasing tensile strength of said extruded composite, said properties compared to a composite without any added chlorinated paraffin wax resin.